

ABSTRACT OF THE DISCLOSURE

An electron source forming substrate wherein
an insulating material film is disposed on the surface
of the substrate at which surface an electron-emitting
5 device is arranged. The insulating material film
contains a plurality of metallic oxide particles having
an average particle size within the range of 6 nm to 60
nm as expressed in a median value, and suppresses
undesirable diffusion of Na from the substrate, thereby
10 makes stable an electron-emitting characteristics,
without an adverse effect due to the Na diffusion, even
elapsing longer time.